

REMARKS

Entry of this amendment and allowance are requested.

The allowability of claim 11 has been noted. The dependence of the claim has been retained since it is believed that claim 1 is allowable for reasons noted below.

Claim 10 has been amended to obviate the Examiner's Section 112, 2nd ¶ and Section 101 rejections. As amended, claim 10 is thought to be free from objection under Section 112 and Section 101, and otherwise in acceptable form. Accordingly, favorable reconsideration of the Section 112 and Section 101 rejections of claim 10 is requested.

The Examiner is requested to reconsider the Section 102(b) rejection of claims 1 and 6-9 as anticipated by Japanese Patent No. JP 61155307. The reference does not disclose the applicants' invention as defined by claims 1 and 6-9.

The Examiner's rejection is based on the erroneous assumption that tragacanth gum and arabic gum as disclosed in the JP reference are galactomannan polysaccharides. Tragacanth gum and arabic gum are not galactomannan polysaccharides.

In support of the applicants' position, the following documents are attached:

- (1) Extract from Bulpin et al. *Carbohydrate Polymers*, 12 (1990), p155.
- (2) Extract from web-site www.sbu.ac.uk/water/hyloc.html regarding the structure and function of the well-known galactomannan, locust bean gum.
- (3) Whistler R.L., *Industrial Gums*, Academic Press (1973), p197-215, Chapter X (gum arabic).
- (4) Whistler R.L., *Industrial Gums*, Academic Press (1973), p289-299, Chapter XIII (gum tragacanth).
- (5) Extract from web-site www.orst.edu/food-resource/gums/arabic.html concerning gum arabic.
- (6) Extract from web-site www.orst.edu/food-resource/gums/trag.html concerning tragacanth gum.

As the term suggests, galactomannans are built up of galactose and mannose residues. More particularly, galactomannans are defined as consisting of a linear

backbone of (1→4)-β-linked-D-mannopyranosyl units substituted at the C-6 position with an α-linked D-galactopyranosyl unit. See, for example, reference (1), page 156, at complete paragraph 2. In this connection, the applicants also attach a structure for locust bean gum (reference 2), a well-known galactomannan, which clearly shows the mannopyranose backbone with a 1→6-linked-α-D-galactopyranose unit attached.

By contrast, the structures elucidated for tragacanth gum and arabic gum contain no galactose and mannose residues, let alone a linear backbone of (1→4)-β-linked-D-mannopyranosyl units substituted at the C-6 position with an α-linked D-galactopyranosyl unit.

Tragacanth gum is a complex mixture of fragments. As discussed at page 291 of reference (4), when this gum is added to water, it is comprised of two fractions, notably tragacanthin which is mostly comprised of D-galacturonic acid and bassorin (a methylated acidic polysaccharide). The other fragments produced on hydrolysis are the sugars; D-galactose, L-fucose, D-xylose and L-arabinose. Further, from reference (6), it can be seen that the anionic exudates of tragacanthin and bassorin are comprised of the following sugars: D-galacturonic acid, D-xylose, L-arabinose, D-fructose, D-arabinose, L-rhamnose. Thus, it is evident that tragacanth gum has not been found to comprise the sugars, galactose and mannose, and it is, therefore, not a galactomannan, let alone a well-known example of this type of polysaccharide.

For similar reasons, arabic gum is also not a galactomannan and thus does not fall within this group of gums as set forth in applicants' claim 1. As discussed at pages 208-212 of reference (3), the main structural feature of arabic gum is a backbone of 1→3-linked-D-galactopyranose units some of which are substituted on the C-6 position by various side chains. A possible core structure for arabic gum is shown at Figure 2, page 211. From reference (5), the major sugars of arabic gum are D-galactose and D-glucuronic acid. Hydrolysis of arabic gum yields L-arabinose, L-rhamnose, D-galactose and D-glucuronic acid. See e.g. reference (3), page 208, part 3, "Sugar Constituents".

Therefore, arabic gum as recited in JP 61155307 is not comprised of the sugars, galactose and mannose and is not a galactomannan.

Accordingly, as neither tragacanth gum nor arabic gum of JP 61155307 are galactomannan polysaccharides, this reference does not disclose or suggest a polysaccharide conjugate as required by applicants' claim 1. It thus follows that neither claims 6, 7, 8 and/or 9, all of which depend from claim 1, are anticipated by the JP reference. The Examiner is, therefore, requested to reconsider and withdraw the Section 102(b) rejection of claims 1 and 6-9 based on the JP reference.

The Examiner is also requested to reconsider and withdraw the Section 103(a) rejection of claims 1 and 5-9 based on the JP reference in view of DeMasi et al. There is no motivation in the references to make the combination proposed by the Examiner. However, even if combined, the references still fail to provide the applicants' invention, bearing in mind the distinctions noted above between applicants' claim 1 and the JP reference. DeMasi et al do not fill in the noted deficiencies of the JP disclosure.

It is also important to note, as a further deficiency in the Examiner's reference combination, that the oil containing silica particles of JP 61155307 may contain numerous different types of hydrophobic oils, which would not be described as a perfume. Further, the oil containing silica particles may be coated with a water-soluble polymer such as a natural polysaccharide, protein or synthetic polymer. Therefore, the possibility exists that the oil containing silica particles may not comprise absorbed perfume and neither may they be coated with a polysaccharide. There is, therefore, no explicit teaching, suggestion or direction in the JP reference, to a person of ordinary skill in the art, to select as the hydrophobic oil, a perfume, and as the water soluble polymer, a polysaccharide, and to thus formulate a perfume containing silica particle coated with a natural polysaccharide as the Examiner suggests. In any event, even if these components were selected and such a coated particle was prepared, none of the polysaccharide and protein materials disclosed in the JP reference are xyloglucans, glucomannans, mannans, galactomannans, β (1-3), (1-4) glucan or the xylan family incorporating glucurono-, arabino- and glucuronoarabinoxylan, as required by applicants' claim 1. Thus, as earlier

noted, arabic gum and tragacanth gum do not fall within the meaning of the term galactomannans as the Examiner contends. Accordingly, while there is no valid basis for combining the references as the Examiner has done, the combination, if made, does not give the applicants' invention since DeMasi et al do not fill in the above-noted deficiencies of the JP disclosure.

For the reasons noted, it is submitted that the Examiner's references do not make the applicants' invention of claims 1 and 5-9 obvious. There are, however, even more reasons why these references cannot defeat the patentability of the applicants' claims. Thus, DeMasi et al disclose a method of formulating a lump-free aqueous gum-containing composition comprising the steps of: preparing a blend of water and an effective amount of water-miscible alcohol having a specified formula; introducing into the aqueous alcohol blend a hydrophilic gum resulting in a final weight ratio water:gum of about 20:1 to 1.3:1; intimately mixing the resultant slurry; and feeding the slurry into a water containing formulation. A composition so formed may be incorporated in consumer products. In this connection, the examples disclose toothpaste formulations and a brushless shaving cream. Suitable hydrophilic gums for use in the disclosed method include mannan type gums e.g. guar gum, as well as a pathological exudate type of gum e.g. tragacanth gum and arabic gum. It is thus clear from a reading of this document that it is not concerned with oil, possibly perfume, containing silica particles coated with a water-soluble polymer as in the JP reference. Rather, DeMasi et al disclose a method of improving the difficulties previously associated with blending or dispersing hydrophilic gums with water e.g. the formation of undesirable lumps in the gum-water composition. The document discloses that the method may be applicable to a number of gums, but only in the context of forming an aqueous gum-containing composition, where the gums function as thickeners and stabilisers. There clearly would have been no motivation for a person of ordinary skill in the art at the time the applicants' invention was made to substitute any of the gums disclosed by DeMasi et al with the gums of JP 61155307.

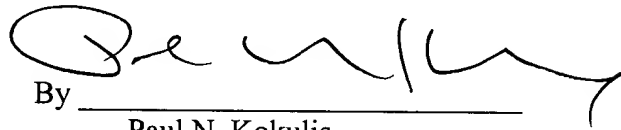
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For the reasons noted, the applicants submit that the Section 103(a) rejection, as well as the Section 102(b) rejection, should be withdrawn and all of the applicants' claims allowed.

Entry of this response with allowance is, therefore, requested.

Respectfully submitted,

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APPENDIX
Version with Markings to Show Changes Made

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IN THE CLAIMS

Claims 10 is amended as follows:

10. (Amended) A method of targeting binding of a particle carrying perfume to cellulose [by use of] which comprises providing a polysaccharide conjugate in accordance with claim 1 and target binding said conjugate to said cellulose.